

JEKEA

TO: RECIPIENTS

SUBJECT: Change 2 to the Global Status of Resources and Training System (GSORTS)
User's Guide, dated 19 August 1994

1. This is Change 2 to the Global Status of Resources and Training System (GSORTS) User's Guide, dated 19 August 1994. Remove obsolete pages and destroy them in accordance with applicable security regulations. Insert new pages as indicated below:

Remove Pages

3
28
85
86
89
110 to 129

Insert New Pages

3
28
85
86
89
110 to 129

2. These change pages become effective 30 December 1996.
3. When this change has been made, file this letter before the title page.

FOR THE DIRECTOR:

25 Enclosures

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Deputy Director, Center for
Applications Engineering Facility

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2.3.7 ZOOM OUT

This option allows you to increase the scale of the displayed map by a factor between 1 and 10. See MAPUTILITIES, SET ZOOM FACTOR for information on setting the zoom factor.

2.3.8 REDRAW

This option redisplay or “refreshes” the map without changing the map center, scale, or feature selections.

2.3.9 MESSAGE WINDOW

Selecting the MESSAGE WINDOW option brings up the XGSORTS Message window. The window consists of a text message area, Clear button, and a Cancel button. The MESSAGE WINDOW is used to display GSORTS system messages and to review current operations of batch run files, retrievals, and applications. Uses for this option include debugging batch run files and determining if a particular question/application is retrieving the appropriate data or “hung” trying to retrieve too much data. Additionally, one particular use of the MESSAGE WINDOW is to provide a warning to GSORTS users whenever the database is being updated and the user initiates a GSORTS session. Selecting the CLEAR button clears the text message area of all system messages. Selecting the CANCEL button closes the popup window and returns control to the main menu.

2.4 GSORTS Main Menu - MAPUTILITIES

Options in the MAPUTILITIES function control the setting of map characteristics, setting zooming and tracking functions, and display menu and legend options. Other options include controlling application process and editing queries. Figure 20 shows the MAPUTILITIES function menu options.

FIGURE 20. MAPUTILITIES Function Options

positioning the cursor over a symbol causes the symbol's label, if one exists, to be displayed in the Label window panel. The Label window panel is a one line text window that is directly above the bottom Map/Legend panel. The one line window directly below the Label Window is the Help Window; it displays the effect of various mouse clicks when the cursor is positioned in the map area. These functions are detailed below. If you have a one or two button mouse, holding the "Shift" key while clicking the left mouse button has the same effect as clicking the middle mouse button. Holding the "Ctrl" key down while clicking the left mouse button has the same effect as clicking the right mouse button.

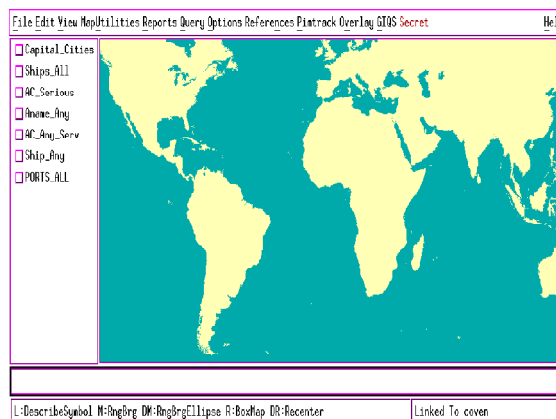


FIG
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60.
Appl
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on
Functions Menu Bar

2.14.1 Describe Symbol (Single Click, Left Mouse Button)

This function displays a description of a question/application map symbol. The question/application selection criteria defines the display content, which includes database fields and values. To select the Describe Symbol function:

- þ Position the cursor over a displayed symbol in the map area and click on the symbol.

Upon selection of a symbol within the map area one of two possible popup windows will appear. When selecting a symbol with only one entity at its location, the Data Description window will appear (See Figure 62) displaying the database fields and values that make up the selection criteria for the question/application. When selecting a symbol with multiple entities at its location, the popup "Icons" window will automatically be displayed as shown in Figure 61. The "Icons" window consists of a Items selection list, OK, Cancel, and Help buttons. The Selection list of the "Icons" window represents all of the entities located at the symbol and

from which to choose from for the Describe Symbol function. Selecting the Cancel button from this window closes the window and cancels the DescribeSymbol function. To select an item from the “Icons” items list, position the cursor over the item and select by left clicking of the mouse. The item selected will become highlighted. Then select

the OK button at the bottom of the window. The Data Description window will appear with the data values for the item selected from the “Icons” window (refer to Figure 62). The Data Description window contains a vertical and horizontal scrollbar. This enables the user to read text that has surpassed the bounds of the window.

FIGURE 61. ICONS Window

When viewing of the Data Description window is complete, exit the window by selecting the Close button located at the bottom of the window. If the Data Description window was invoked from an “Icons” popup window selection, the Data Description window will close and the “Icons” popup window will reappear for next item selection or cancelation. If the Data Description window was not invoked from the “Icon” popup window, then exiting will return control back to the main menu.

FIGURE 62. DATA DESCRIPTION Window

þ Move Selected Map (Single Click, Middle Mouse Button):

This function allows you to move the sized box around the current map until you find something you want to draw.

- h Abort Map Selection (Single Click, right Mouse Button):
This function returns the mouse functions to the initial map Mouse Functions.

2.14.5 Recenter (Double Click, Right Mouse Button)

This function takes the position of your pointer and recenters the current map view using the pointer position as the map center.

2.14.6 The “Linked to” Box

This box is informational only. It cannot be accessed or modified by the user. It contains a constant display of the database platform to which the user is linked.

3.0 Using the GSORTS GIQS APPLICATION

The Generalized Interactive Query System (GIQS) is a software application that allows users with little knowledge of Structured Query Language (SQL) to create powerful and complicated SQL retrievals against the database. The GIQS application was originally developed for use with the SORTS database under the application name of SORTS Interactive Query System (SIQS) and later enhanced to provide the capability to create and conduct queries against any database once that database has been defined to GIQS. In addition to creating and conducting SQL queries, GIQS can serve as a training aid for learning SQL and its syntax by displaying the query text generated and producing an outline of the execution plan for that query. The following text in this section describes the GIQS windows and its functions.

3.1 THE GIQS MAIN MENU BAR

Figure 63 shows the menu options available with the GIQS Application. To select a menu item, position the mouse cursor over the function desired and click the mouse button to activate it. To obtain help for a menu item,

position the mouse over the
item and press the CTRL F1 function key. When an object is
selected, it is
distinguished by being enclosed in a dark box.

The DISTINCT ENABLED Option

This option functions as a toggle on/off switch. When on (Default setting) a highlighted square appears to the left of the option in the menu. The DISTINCT ENABLED option appends the DISTINCT command to the current selection. This command is used to preclude multiple listings being produced from queries that access tables where more than one database entry is allowed. For more information on the DISTINCT command, refer to your SQL or SQL Plus Users Guide.

The ORDER COLUMNS Option

Selecting this option displays the order column pop up window. This window consists of the column field selection list, item selected field, and the OK, Apply, Cancel, and Help buttons. Upon initial selection of this option, the order column pop up window will contain the default column order of the current selection. All of the columns (fields) selected for the current selection are listed in the column field selection list. The numbers to the left of each item represent the order in which the columns will be displayed. To change the order in which the columns will be output, select the column item to be moved by clicking on it. The item will become highlighted and also appear in the item selected field. Next, to place the selected column into its new position, position the cursor on the column item that will directly follow the selected column. The selected column will be inserted BEFORE this item in the list. IMPORTANT: The numbers to the left of each column item WILL NOT change even after repositioning the columns. These numbers represent the columns default position. After making all desired changes to the columns positions, select OK or APPLY to activate the new positions. Selecting OK will activate new positions and close the pop up window. Selecting APPLY will activate the new positions, but will not close the pop-up window. Selecting CANCEL exits the pop up window without changing the positions and returns to the main menu.

The DEFAULT ORDER Option

Selecting this option resets the order of the output fields back to the order in which they were selected when creating the current selection. The default order is always that of the one contained in the current selection.

3.7 THE REPORT FUNCTION

The options available under the REPORT function include all aspects of creating or editing an existing report format. The REPORT function organizes information you request into a preset format made up of one or more canned queries. You may skip this function if you are performing a standard query. The options available under the REPORT function include:

- ␣ LoadReport - Loading (choosing) a report format.
- ␣ EditReport - Editing an existing or creating a new report format.
- ␣ ClearReport - Clearing the current report format.

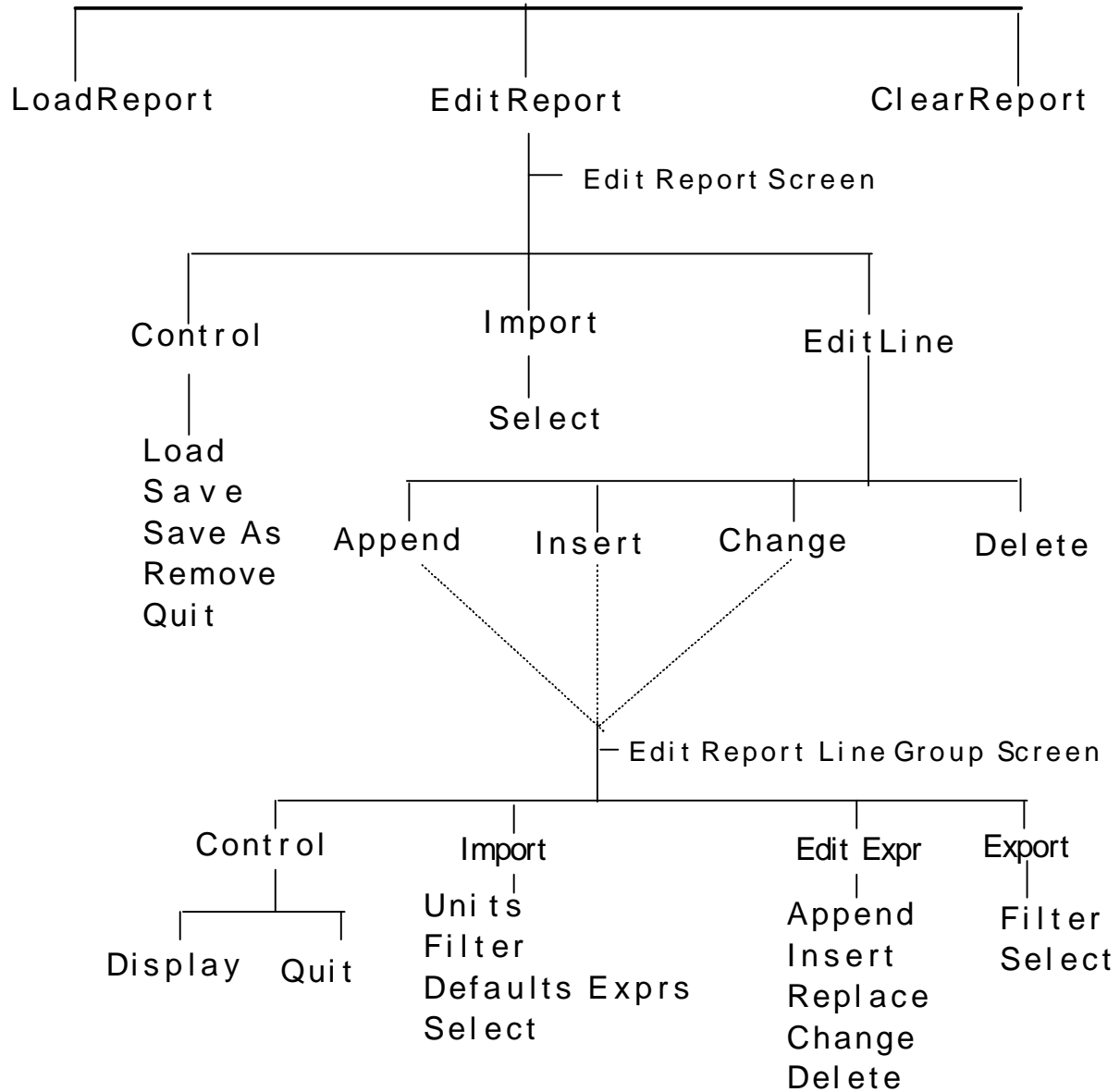
Looking at the REPORT function tree structure shown on the next page, notice that the EditReport option consists of the three basic subfunctions Control, Import, and EditLine. Tracing the path of the EditLine subfunction, notice that this subfunction consists of four separate suboptions, three of which use the EditReport Line Group window. The EditReport Line Group window contains four additional suboption menus, three of which offer the advanced report editing features available.

Formatting of reports within GIQS is the result of numerous individual decisions regarding format, content, and arrangement. The REPORT function of GIQS provides complete control over these decisions while providing for maximum report formatting flexibility. Each of the REPORT function options, and suboptions are shown and discussed in following pages.

To enter the REPORT function of GIQS select the REPORT function from the main menu as shown in Figure 78 below.

FIGURE 78. REPORT FUNCTION Options

REPORT FUNCTION



3.7.1 Loading Reports

To obtain a list of saved or “canned” reports available for loading, select the **LOAD REPORT** option. A pop-up window similar to the **LOAD SELECTION** and **OPEN FILTERS** windows will be displayed listing reports available for loading.

Select a report from the list of available reports displayed. The the name and description of the report chosen is automatically entered into the text box above the list of available reports displayed.

Select the **OKAY** button. Upon selecting the **OKAY** button the **LOAD REPORT** pop-up window will be removed from the display and the name of the report selected will be entered in the main display screen after the “Report:” label.

3.7.2 Editing Reports

The **EDIT REPORT** option is used to view, remove, or edit existing report settings and reports or to create and save new reports.

The **EDIT REPORT** option includes all aspects of editing an existing report format or creating a new report format. To enter the **EDIT REPORT** option from the **REPORTS** function menu, select the **EditReport** option. The **Edit Report** window shown in Figure 79 will be displayed.

The **Edit Report** window is divided into four basic option areas and a menu bar. The following paragraphs address each of the option areas, it’s contents, and the menu bar used to manipulate its contents.

The **Report Tag** area (the box underneath the upper left **Control** option of the menu bar) contains the base name of the current report file being edited or created. Its title (if any) is contained in the next box to the right of the **Report Tag**.

The **Page Settings** area (located directly under the **Report Tag** area) contains settings for the page width measured in character columns, page height measured in character lines, and a toggle option for underlining column headings. The default value for page width is 80 but can be changed by clicking on the box and entering the desired column width. The default value for page height (**Page Lines**) is 20 and can be changed by clicking on the **Page Line** box and entering the desired number of character lines. The **UnderlineColHdr** box allows you to choose whether or not to print a row of dashes beneath the column headers. The default value for this option is set to **No (off)**.

The “**Select Factors for**” area (directly underneath the **Page Settings** area) displays the selection and unit criteria (if any) imported into the report.

The **Report Line Group** display area consists of the lower half of the window and contains a listing of all the **Line Groups** defined within the report if any. **Line Groups** contain the basic structure or format of the report as a sequence of line groups.

As shown in Figure 79, the menu bar of the Edit Report window consists of the following subfunctions:

- þ **The CONTROL Subfunction Menu:** System controls that are very similar to those previously experienced.
- þ **The IMPORT Subfunction Menu:** Import capability for importing the current GIQS selection and units criteria into the report being created or edited.
- þ **The EDITLINE Subfunction Menu:** Provides Line editing features to manipulate line groups.

FIGURE 79. Edit Report Window

The CONTROL Subfunction Menu

The CONTROL Subfunction menu consists of the following options:

- þ **LOAD** - Provides a list of current reports for loading/editing.
- þ **SAVE** - Saves any changes to the report under its base name.
- þ **SAVE AS-** Saves the current report to a new base name or overwrites report selected from the list of available reports.
- þ **REMOVE** - Deletes a report from the list of available reports.
- þ **QUIT** - Exits the REPORT function and returns to the GIQS main display.

Select **LOAD** to access the list of available reports. Select the report you wish to edit, or select **CANCEL** at any time to stop **LOAD**. The report format chosen is displayed on the Edit Report window (discussed later) ready for editing.

The SAVE option saves the report currently displayed on the screen under the base name that appears in the Report Tag box. If the current report is unnamed, the SAVE AS option is automatically invoked.

The SAVE AS option saves the current report settings under a new base name. If no report name is specified, a warning box is presented reminding you to enter the new report name.

Select the REMOVE option to delete or “remove” a report from the list of available reports. Select the report you wish to remove and select OK to remove the report from the list or select CANCEL to abort the remove operation.

The QUIT option exits the REPORT function and returns you to the GIQS main display.

The IMPORT Subfunction Menu

The IMPORT Subfunction imports the current active selections from the GIQS main menu SELECT function into the report being edited.

The EDITLINE Subfunction Menu

The EDITLINE Subfunction menu is used for adding, deleting, and changing line groups that make up the report format. Options under the EDITLINE subfunction menu include:

- þ APPEND - Add a line group to the report.
- þ INSERT - Insert a new line group(s) ahead of an existing line group.
- þ CHANGE - Change an existing line group(s).
- þ DELETE - Remove an existing line group(s).

The APPEND option

Use APPEND to add a line group to the end of the report’s line group list or to create the first line group in the list (new report). The EDIT REPORT LINE GROUP screen is displayed for editing (discussed below).

The INSERT option

Use INSERT to place a new line group ahead of an existing group. Select INSERT from the option menu. The current cursor will change from an arrow to a hand pointing a finger. Select the line that you want to FOLLOW the new inserted line group. The EDIT REPORT LINE GROUP screen is displayed for editing (discussed below).

The CHANGE option

Select CHANGE to edit the currently selected line group (highlighted) or to begin editing a new line group when one does not exist (new report). The EDIT REPORT LINE GROUP screen is displayed for editing (discussed below). You may also enter the EDIT REPORT LINE GROUP screen for a line group by simply selecting (single click) the line group from the Report Line Group display area.

The DELETE option

Use the DELETE option to delete an existing line group from the report. Select DELETE from the option menu. The current cursor will change to a question mark with an arrow for the bottom period of the question mark. Move the question mark cursor over the line group you wish to delete and select (single click) the line group. The entire line group is deleted from the Report Line Group list.

The EDIT REPORT LINE GROUP Screen

After selecting APPEND, INSERT, or CHANGE from the EDITLINE Subfunction menu, the EDIT REPORT Line Group screen will appear (see Figure 80 below). The following discussion addresses the contents of the screen and its menu bar that is used to manipulate its contents and settings.

FIGURE 80. Edit Report Line Group screen

The Line Group Description Text box (located directly under the menu bar) is used to provide a name for the line group. Select this box and enter a name. If you are editing an existing line group, its name is already displayed in the box. To change an existing name, simply over type the existing name.

The Line Group Parameters box (located directly underneath the Line Group Description Text box) contains the current parameters or settings in the form of selects, units criteria, and/or filters associated with the line group being edited.

The Group By text box (directly underneath the Line Group Parameters box) is used to edit the line group's "Group By" expression list. Entering expressions in this box appends the SQL Group By command with the entered expression to the line groups query. Expressions must be entered using SQL expression syntax. Field and column references can be made by using the \$0, \$1, etc., expansion macros discussed later. Expansion macros represent selected column names obtained from the Column List window.

The Having Text box (located below the Group By text box) is used to enter the optional "Having Text" SQL command format reference. This condition must be written using standard SQL condition syntax and the \$n column name macros. If no Group By expression list exists for the line group, the Having Text clause is appended to the WHERE clause with an AND conjunction.

The Column List window (located under the Having Text box) displays the current SELECT columns available for use in "Group By", "Having", and "Select" SQL expressions. These columns are referenced by name or by using expansive macros discussed later in this chapter.

The Edit Expression Field box (directly below the Column List window) is used to hold and edit (or add) an expression from the Expression List Window box.

The last window box of the Edit Report Line Group screen is the Expression List Window box. This display contains a list of all the Line Groups current expressions.

The EDIT REPORT LINE GROUP Screen Menu Bar

The menu bar in the EDIT REPORT LINE GROUP screen lists four items across. The following table lists the menu options and the items related to them.

<u>MENU OPTIONS</u>	<u>ITEMS</u>
CONTROL	<ul style="list-style-type: none"> ␣ Display Query ␣ Quit
IMPORT	<ul style="list-style-type: none"> ␣ Units ␣ Filter ␣ Defaults Expr ␣ Select
EDIT EXPR	<ul style="list-style-type: none"> ␣ Append ␣ Insert ␣ Replace ␣ Change ␣ Delete

EXPORT

- ↳ Filter
- ↳ Select

The CONTROL Menu Option

Items available under CONTROL include:

- ↳ DISPLAY QUERY Displays the SQL query text that will be executed when the report is run.
- ↳ QUIT Exits the Edit Report Line Group Screen and returns back to the Edit Report Window.

The IMPORT Menu Option

Items available under IMPORT include:

- ↳ UNITS Imports the current unit criteria from the main GIQS window into this line group
- ↳ FILTER Imports the current filter criteria from the main GIQS window into this line group
- ↳ DEFAULT Incorporates all of the currently selected columns (fields) as this line groups field settings.
- ↳ SELECT Imports the current selections from the main GIQS window into this line group.

To use this menu option, select IMPORT, then select the desired option(s). The system imports the requested settings into the EDIT REPORT Line Group settings.

The EDIT EXPR Menu Option

The next item in the menu bar is EDIT EXPR (expression). Expressions can be edited in the following ways:

- ↳ APPEND Adds an expression to the end of the expression list.
- ↳ INSERT Places an expression BEFORE an existing expression in the expression list. Select INSERT from the option menu. Select the expression in the expression list that will directly FOLLOW the new expression being inserted.

- ⌘ REPLACE Replaces an existing expression with the expression or contents in the Edit Expression Field. Select REPLACE from the option menu and select the expression you wish to replace from the expression list..
- ⌘ CHANGE Change (edit) the expression list. Select CHANGE from the option menu and select the expression you want to Change or edit from the expression list.
- ⌘ DELETE Removes an existing expression from the expression list. Select DELETE from the option menu. Select the expression to be removed from the expression list.

The EXPORT Menu Option

The next item in the menu bar is EXPORT. Select EXPORT, then FILTER or SELECT to export the current item's filter or select to the main GIQS window. The exported filter or select becomes the current GIQS filter or select.

- FILTER Exports the Filter settings of the current line group to the main Filter settings for GIQS queries. Select FILTER from the option menu. The line groups Filter settings are exported to the GIQS Filter conditions. Note: exporting of a line groups filter settings overlays any filter settings in the GIQS main filter conditions area.
- SELECT Exports the Select settings of the current line group to the main Select settings for GIQS queries. Select SELECT from the option menu. The line groups Select settings are exported to the GIQS Select conditions. Note: exporting of a line groups select settings overlays any select settings in the GIQS main select area.

Editing and Creating Reports

As discussed earlier, the formatting of reports within GIQS is a result of numerous individual decisions regarding format, content, and arrangement. The steps that follow can be used to edit or create a report. For illustration purposes, an existing report will be used throughout the following text.

Select the REPORT function from the GIQS main menu bar. From the REPORT options select the EDITREPORT option to begin using the advanced subfunctions available. The Edit Report window (Refer to Figure 79) should appear.

Select the CONTROL subfunction from the menu bar of the Edit Report window and then select the LOAD option. As with Selections and Filters, a pop-up window will appear listing available reports for loading. Select the report "TESTMA" from the list of reports

by clicking on it. The report “TESTMA” is sample report provided with GIQS for example purposes only. Once you have selected the report click on the OK button. The pop-up window will close and the Edit Report Window will refresh with the loaded reports criteria and settings.

Notice that the four basic option areas of the window now contain the report’s name and title (Report Tag area), page settings (Page Setting area), select and filters (Select Factors area), and line group listing (Report Line Group area). The Report Line Group area (lower half of window) displays the basic structure of the report as a sequence of Line Groups. Line Groups fall into two general categories: Labels and Data.

Label groups contain no column selections (Selects) but may contain expressions (SQL expressions). The basic types of Label groups used are Headers, Footers, and Titles. Header and Footer groups always precede the first Data line group. A Footer is distinguished in that the first character of its description (name) is a “F” or “f”. A Title group is basically a label (title) for any Data groups that follow it. Titles may be inserted between Data groups and function as text labels, column headers, and report separators.

Data groups may be either of the column/row definition (COLS/ROWS) or row definition (ROWS) type. A column/row definition may contain criteria for units, selections, and expressions where as a row definition may only contain the units criteria.

Select the Header 1 Line Group from the Report Line Group display area by clicking on it once. The Edit Report Line Group screen for Header 1 will appear. Notice that the Line Group Parameters, Group By, Having Text, and Column List windows contain no settings as headers are of the Label group type and may contain only expressions.

You can change the current header name and description or create a new header by clicking on the Line Group Description Text box (located directly under the menu bar) and simply over type the existing name and description. The description is separated from the name by the “:” character.

The actual text of the report header is entered in the Edit Expression Field box (located directly under the Column List window) and is added to the Expression List window using the EDIT EXPR menu options of Append, Insert, Replace. To add a text report header activate the Edit Expression Field box by clicking on it once. Text for headers is entered into the Edit Expression Field box by typing in the preferred text or by using the \$ macro conventions. In Label group expressions, the following \$ macro conventions apply and are used to reference part or all of the actual report title from the Edit Report window (box next to the Report Tag area) as part of your header(s).

\$0 = the entire report title
\$1 = the first part of the title
\$3 = the second part of the title

Label group expressions may also contain standard SQL expression such as Date @ to

display the current date on the report. Add the expression to the headers expression list by clicking on EDIT EXPR and selecting Append or Insert. The expression in the Edit Expression Field box will be added to the Expression List window box. When you are satisfied with your header, select the CONTROL function from the menu and then select the QUIT option to remove the window from the display.

Select the Footer 1 Line Group from the Report Line Group display area by clicking on it once. The Edit Report Line Group screen for Footer 1 will appear. As with headers, you can change or create a line group name for Footers by over typing or editing the Line Group Description Text box. A Footer is distinguished from other label groups in that the first character of its description must be an "F" or an "f". Also as with headers, expressions area added to expression list using the Edit Expression Field box and the EDIT EXPR menu options of Append, Insert, Replace. Footers may contain text or SQL expressions such as # for page number. When you are satisfied with your footer, select the CONTROL function from the menu and then select the QUIT option to remove the window from the display.

Select the Title "HEADQUARTERS" from the Report Line Group display area by clicking on it once. The Edit Report Line Group screen will appear for the title. By clicking on the Line Group Description box you can change or create the text title for this line group. Hit return to enter the text into the Edit Report Line Group Expression List. A Title is a text label that immediately precedes the first data definition. There can be multiple titles and data definitions within a report. When you have finished editing select the CONTROL function from the menu and then select the QUIT option to remove the window from the display.

Select the Cols/Rows "(MAW,MAG)" Line Group from the Report Line Group display area by clicking on it once. The Edit Report Line Group screen for the Data Line Group will appear. By clicking on the Line Group Description box you can change or create the line group name for the Data group Cols/Rows. Press the return key to enter the text group name. The Line Group Parameters box (located directly underneath the Line Group Description box) contains the current settings for Selects, Units, and Filters imported into the report from the main GIQS display. The Filters and Units criteria determine which records will be retrieved from the database for inclusion into the report. Selects define what database field values will be available for inclusion into the report. To import Selects into the Edit Report Line Group screen, first make selections from the GIQS main menu using the SELECT function. The Report function will ONLY import the currently active GIQS selection criteria. Once you have made your selections from the SELECT function, return to the Edit Report Line Group screen and select the Import function and then the Select option. The Column List Window (third window from the bottom) will refresh and contain the column selection list. The Column List window displays the current select columns imported and available for use in the Group-by, Having, and expressions boxes. The columns (fields) are identified using assigned numbers versus field names starting with zero. Reference to columns in the Group-by, Having, and expressions boxes is done by using these numbers in expansive macros such as \$0, \$1, \$2, \$3, \$4, etc. To obtain a list of expansive macros, first use the tab key or

mouse pointer to activate the Edit Expression List window then press the F1 key (help function).

In addition to importing Selections you may import current GIQS Filter and Units criteria to limit which records are retrieved from the database. To import Filter or Units criteria select the Import function and then select either the Units or Filter option. The Line Group Parameters box will refresh and display the imported criteria.

At this point you have defined Filters and Selections for your report format but not what is to be done with or how to display the data retrieved. This information is stored in the Expression List window box (bottom window box). Expressions created and edited using the Edit Expression Field box located directly above the Expression List box. To retrieve an expression from the list simply select the expression by clicking on the expression. The Edit Expression Field box will refresh with the expression settings. Hitting the ENTER key causes the contents of the Edit Expression Field box to replace the contents of the currently selected expression. Editing is done by simply over typing the contents of the Edit Expression Field box and pressing Enter or using the options under the EDIT EXPR function.

Data Line Group expressions are made in the following format:

`<expr>,<header>,<width>`

where

expr is an SQL data value or expansive macro expression.

header is a character string ("xxx").

width is an integer describing the column width.

Examples:

`$$,"",30` = put line group name before each row's data column width of 30.

`$4` = values are from field 4 (Column List window) use the database field name as column title with default width.

`Sum($12),"Total":6` = calculate the sum total value for field 12 (column List Window) using "Total " as column title with field width of 6.

The Column header strings may be divided into lines by inserting the "|" character. A column header line that is empty or consists of a single ' ' (space) may be overlaid by the column header line immediately to the left.

Data type Line Groups use standard SQL expression syntax with the following shorthand expansive macros available within GIQS.

EXPANSIVE MACROS	SQL EXPRESSION SYNTAX
---------------------	-----------------------

\$\$	<the line group's description>
\$0,\$1,...	<the columns, as listed in the column list>
a[b,c]	substr(a,b,c)
!a	decode (a,0,1,0)
a=b	decode(a,b,1,0) <if b is a constant>; decode (sign((a)-(b)),-1,1,0,0,0,1) <if b is variable>
a!=b	decode(a,b,0,1) <if b is a constant>; decode (sign((a)-(b)),-1,1,0,0,0,1) <if b is variable>
a<b	decode (sign((a)-(b)),-1,1,0,0,1,0)
a<=b	decode (sign((a)-(b)),-1,1,0,1,1,0)
a>b	decode (sign((a)-(b)),-1,0,0,0,1,1)
a>=b	decode (sign((a)-(b)),-1,0,0,1,1,1)
a and b, a&&b	a*b
a or b, a//b	decode (sign((a)+(b)),-1,1,0,0,1,1)
a?b;c	decode (a,1,b,c)
a'b	nvl(b,a)
where	
a,b, and c represent column references, numbers, characters (‘char”), strings (“string”), or expressions.	

When editing is finished, select the QUIT option under the CONTROL function to close the Edit Report Line Group window. Select the CONTROL function and then the QUIT option again in the EDIT REPORT window to exit the REPORT function.

To view the output of the report, use the RUN function from the main menu and then select Report (See 3.9 The Run Function).

3.7.3 Clearing Reports

To clear ALL current GIQS report criteria and settings, select the CLEAR REPORT

option from the REPORTS function menu. All loaded report criteria and settings (if any) will be removed from the GIQS Report option and replaced with default settings.

3.8 THE OUTPUT FUNCTION

The next step is to choose the method of output that you want. The options available under the OUTPUT function include:

- ␣ DisplayQueryText - Displaying the current query text.
- ␣ UnitReport - Choosing a unit report format.
- ␣ NameOutputFile - Naming (or renaming) the output file.
- ␣ ViewQueryOutput - Viewing the query output.
- ␣ ExplainQueryPlan - Explaining the query plan.

Select OUTPUT as shown in Figure 81.

FIGURE 81. Output Menu Items

3.8.1 Display Query Text

The DISPLAY QUERY TEXT option shows you the SQL text that your query has generated. The generated SQL performs the actual query. Its contents, which are for viewing only, correspond to the unit criteria, filters, and the selections you have chosen.

3.8.2 Unit Report

A unit report contains all available GIQS information about a given unit. To obtain a unit report, select the UNIT REPORT option. You are requested to enter the Unit Identification Codes (UICs) for one or more units for which you would like to have a unit report.

Select the empty text box and type in one or more unit ID codes (UICs) separated by single spaces. When you are finished, select the OK box. If you change your mind, select the cancel box. The unit report request is stopped.

3.8.3 Name Output File

The NAME OUTPUT FILE option displays the default path name. A default path is the location to which GIQS normally sends the output, or results, of your queries. Each time you run a query, its output goes into the same file, overwriting the previous output.

To change the default output file, select the NAME OUTPUT FILE option from the OUTPUT submenu.

To create a new output file, move the cursor inside the text box and select the last letter of the default path name. Then backspace and type in the new output file name.

If you are satisfied with the new name, select the OK box. You've just changed the default and renamed the file. If you change your mind while you are working inside the text box, the new name request is stopped. The prompt pop-up display is closed, and your original default path name remains unchanged.

If GIQS can not open the file you typed in, query results are written to the default path name.

3.8.4 View Query Output

The VIEW QUERY OUTPUT option is useful if you don't need to see the output report directly on the screen. For example, if you run a very long report, you can save time by bypassing screen display and having the output sent directly to the designated file. Not displaying a query's result in the main text window speeds the retrieval time for queries that produce large quantities of text.

Select the VIEW QUERY OUTPUT option. When the View Output option is ON, a dark box to its left indicates that the results of the current query is to be displayed in the main text window. When it is OFF, no box appears and the results are not displayed. The results of a query are always recorded in the default or designated output file described above.

3.8.5 Explain Query Plan

The EXPLAIN QUERY PLAN option produces an outline of the execution plan that GIQS uses to query the database. This outline is useful to GIQS programmers for determining the efficiency of the current query.

3.9 THE RUN FUNCTION

The next step in this process is running the query or report. The RUN function performs a series of steps based on the choices made using the UNITS, FILTER, SELECT, and if required, REPORT options:

- þ Formulates the current query as a series of SQL statement.
- þ Presents the SQL statements to the database.
- þ Formats the returned data.
- þ Writes the data to the QUERY OUTPUT File, and optionally, to the GIQS main window.

The amount of time taken to process a query or report depends upon its complexity, its length, and whether VIEW QUERY OUTPUT was turned on or not. The RUN function tree structure is very simple.

Select RUN, the function second from the end of the main menu bar. Figure 82 shows the options available in the Run menu.

FIGURE 82.RUN Function Option

3.9.1 Running a Query

The current query is determined by the unit criteria, the filters, and the selections. Select QUERY to execute the current query.

3.9.2 Running a Report

Select REPORT to execute the report previously chosen from the REPORT function.

3.10 THE PRINT FUNCTION

The options available under the PRINT function include:

- þ Query - Printing the current query.
- þ Report - Printing the current report.

The PRINT function is analogous to the RUN menu item.

Select PRINT function from menu as shown in Figure 83.

FIGURE 83. Print Menu Items

3.10.1 Printing the Query

Select QUERY from the PRINT function to print the contents of GIQS output file.
(Recall the NAME OUTPUT FILE option under the OUTPUT function. The file name remains GIQS.out unless you change it using that option.).

3.10.2 Printing the Report

Select REPORT to produce the report.

3.11 THE HELP FUNCTION

At the present stage of development, on-line help facilities have not been totally completed. However, in future releases HELP menus will become available to provide you with instruction and command usage specific to each menu item and its related options. Also the HELP functions will provide information concerning the relationships between functions and associated processes. Selecting the HELP function at this time invokes a session of XSM as discussed in Section 2.12.

Appendix

System Requirements and Software Configuration

Specific system requirements and software configuration are dependent upon selection and installation of computer resources for specific sites. The exact requirements will be determined during the system analysis and requirements phase of installation.

The following are brief descriptions of requirements for the GSORTS software system.

Hardware

- SunSparcStation 2, 10, 20, 690, 1000, 2000
- 486 PCS (using a fully compliant Xwindows/Xterm software package)
- Solaris 2.3/SunOS 5.3
- Xwindows, X11R5
- Motif 1.2.3
- Oracle version 7.X
- Xterm capability: FTP-OCTCP, AGE-XOFTWARE, WINDOWS 3.1/DOS, Santa Cruz Operation (SCO) UNIX software.

Start-up

Both applications should be started initially as a background UNIX process. Determine the directory and path where the software systems are installed and enter the following commands to begin each session.

```
% pathname_directoryname/run_gsorts  
% pathname_directoryname/run_giqs
```

where

% is the operating system command line prompt;

pathname_directoryname is the absolute path from the root directory to the GSORTS home directory containing the run scripts; run_gsorts and run_giqs are the run scripts for GSORTS & GIQS;

The Xterm capability allows the user to rlogin into an available SUN SPARC workstation for operation. Once the user is logged in to the workstation from their PC, the commands listed above can be performed. The information must be displayed back to the machine's display that is performing the Xterm.